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## **CLAIMS**

## What is claimed is:

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ppi	$\nearrow_1$	1.	A method of debugging a first software program, the method comprising the steps of
	2		preserving a memory state of a preserved portion of the first software program;
	3		dynamically linking a second software program to the first software program withou
	4		deallocating from volatile memory the first software program;
	5		executing the second software program; and
	6		when execution of the second software program would otherwise cause modification
man, manif	7		to targeted data that is in the preserved portion of the first software program,
din Indi	8		making a copy of the targeted and modifying the copy to generate a modified
den has som som som som som som	9		copy of the targeted data without modifying the targeted data that is in the
et Li	10		preserved portion of the first software program.
<u>.</u>			

- The method of Claim 1, further comprising the steps of: 2.
- publishing in the preserved portion of the first software program a corresponding 2
- 3 symbolic name associated with the second software program; and
- multiple users accessing the second software program is accessed through the 4
- 5 corresponding symbolic name.
- 1 3. The method of Claim 1, wherein the first software program is a database system.
- 1 4. The method of Claim 1, wherein the step of preserving a memory state further



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includes the step of suspending a failed application of the database system.

- 5. The method of Claim 1, further including the step of, in response to a subsequent attempt to access the targeted data in the preserved portion of the first software 2 3 program, accessing the modified copy of the targeted data.
- 1 6. The method of Claim 5, wherein the steps of dynamically linking and executing 2 are initiated by a particular user, and wherein the step of accessing the modified copy occurs only if that particular user initiates the subsequent attempt to access 3 4 the targeted data.
- The method of Claim 1, wherein: 1 7.
- 2 the steps of dynamically linking and executing the second software program are
- 3 performed by a first user;
- the modified copy is a first modified copy of the targeted data; and 4
- 5 the method further comprises the steps of
- 6 after the first modified copy has been created for the first user, a second user
- executing performing an operation which, when executed, would cause 7
- 8 modification to the targeted data in the preserved portion; and
- 9 performing the operation by making a second copy of the targeted data and
- modifying the second copy to generate a second modified copy of the 10
- targeted data, the second modified copy being separate from the first 11
- 12 modified copy and from the preserved portion.

July 1	1	8.	The method of Claim 7, further comprising the steps of:
	2		after the first and second modified copies have been created for the first user and
	3		second user respectively, a third user dynamically linking and executing a
	4		third software program which, when executed, would cause modification to
	5		the targeted data in the preserved portion; and
	6		making a third copy of the targeted data and modifying the third copy to generate a
	7		third modified copy, the third modified copy being separate from the first
	8		modified copy, from the second modified copy, and from the preserved
	9		portion.
And the state of t	1	9.	A computer-readable medium bearing instructions for debugging a first software
	2		program, the instructions arranged, when executed by one or more processors, to
	3		cause the one or more processors to perform the steps of:
	4		preserving a memory state of a preserved portion of the first software program;
·	5		dynamically linking a second software program to the first software program without
	6		deallocating from volatile memory the first software program;
	7		executing the second software program; and

when execution of the second software program would otherwise cause modification to targeted data that is in the preserved portion of the first software program, making a copy of the targeted and modifying the copy to generate a modified

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copy of the targeted data without modifying the targeted data that is in the preserved portion of the first software program.

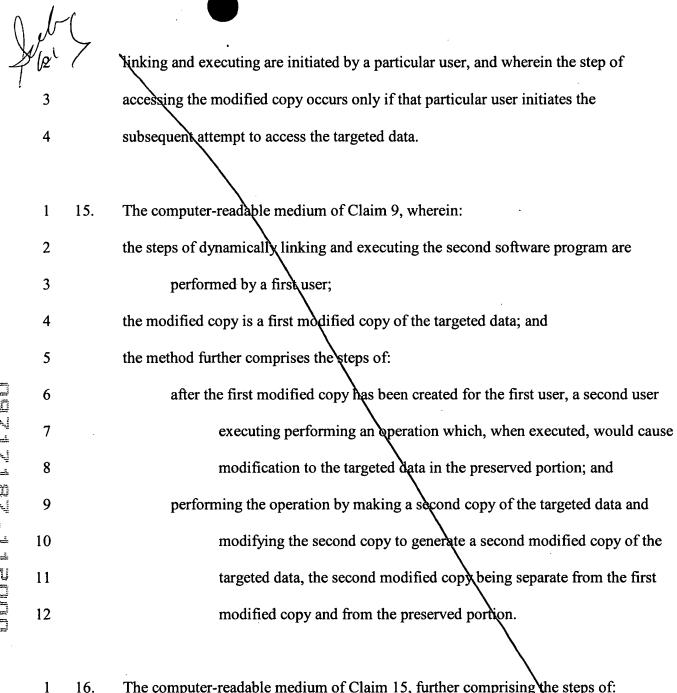
- 1 10. The computer-readable medium of Claim 9, further comprising the steps of:
  2 publishing in the preserved portion of the first software program a corresponding
  3 symbolic name associated with the second software program; and
  4 multiple users accessing the second software program is accessed through the
  5 corresponding symbolic name.
- 1 11. The computer-readable medium of Claim 9, wherein the first software program is a database system.
- 1 12. The computer-readable medium of Claim 9, wherein the step of preserving a
  2 memory state further includes the step of suspending a failed application of the
  3 database system.
- 1 13. The computer-readable medium of Claim 9, further including the step of, in
  2 response to a subsequent attempt to access the targeted data in the preserved
  3 portion of the first software program, accessing the modified copy of the targeted
  4 data.
- 1 14. The computer-readable medium of Claim 13, wherein the steps of dynamically

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The computer-readable medium of Claim 15, further comprising the steps of: after the first and second modified copies have been created for the first user and second user respectively, a third user dynamically linking and executing a third software program which, when executed, would cause modification to the targeted data in the preserved portion; and



making a third copy of the targeted data and modifying the third copy to generate a third modified copy, the third modified copy being separate from the first modified copy, from the second modified copy, and from the preserved portion.

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